Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

975 ABO blood group, rhesus type and risk of COVID-19 in pregnant women

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OBJECTIVE: There is controversy regarding the association of ABO blood group, Rhesus (Rh) type and risk of COVID-19. We tested the hypothesis that ABO blood group and Rh type are associated with COVID-19 diagnosis and symptoms during pregnancy.

STUDY DESIGN: Retrospective analysis of prospectively collected data from two labor and delivery units with universal SARS-CoV-2 testing policy between March 1 and May 31, 2020. All pregnant women tested during the study period were eligible. The primary outcome was COVID-19 diagnosis. Secondary outcomes were measures of COVID-19 severity, including symptoms, ICU admission, respiratory support and treatment for COVID-19. Outcomes were compared across ABO blood groups. Women with blood group O or Rh positive blood type were compared with non-O groups and Rh negative, respectively, using univariable and multivariable analyses.

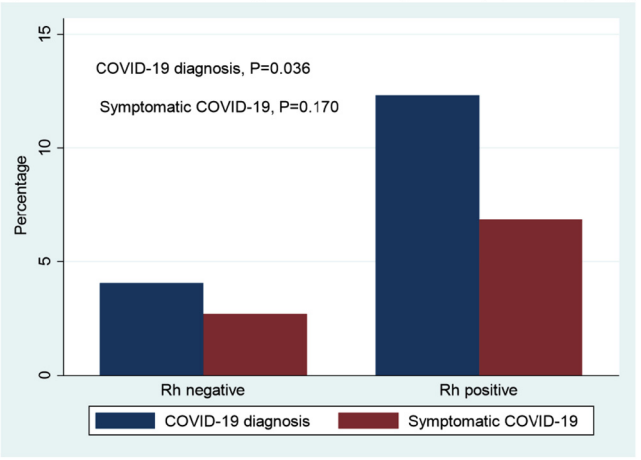
RESULTS: Of 586 pregnant women tested, 66 (11.3%) were positive. The most common ABO blood group in the cohort was O (52.2%) and 87.4% were Rh positive. Rates of the primary outcome, COVID-19 diagnosis, were not significantly different across ABO blood groups (P=0.47). There were also no significant differences in measures of COVID-19 severity among blood groups (Table). Compared to other blood groups, the risk of COVID-19 diagnosis was not significantly different in women with group O (13.1% vs 9.3%, adjusted OR 1.43; 95% CI 0.84, 2.4). Rh positive women were at a significantly higher risk of COVID-19 diagnosis (12.3% vs 4.1%, adjusted OR 3.38; 95% CI 1.03, 11.07) and a non-significant increased risk of symptoms (6.8% vs 2.7%, adjusted OR 2.67; 95% CI 0.63, 11.32), after adjusting for ABO blood group (Figure).

CONCLUSION: We found no association between ABO blood group and diagnosis or severity of COVID-19 in pregnant women. However, Rhesus positive women may be at a higher risk of COVID-19.

Table: Association of ABO blood group and Covid-19 in pregnancy

Outcome	Group A (n=176)	Group B (n=88)	Group AB (n=16)	Group O (n=306)	P
Primary outcome					
COVID-19 diagnosis	18 (10.2)	7 (8.0)	1 (6.3)	40 (13.1)	0.47
Secondary outcomes					
Symptomatic	11 (6.3)	5 (5.7)	1 (6.3)	20 (6.54)	0.63
ICU admission	1 (0.5)	0 (0.0)	0 (0)	2 (0.6)	>0.99
Respiratory support	1 (0.5)	0 (0.0)	0 (0)	4 (1.3)	0.64
COVID-19 treatment	5 (2.7)	1 (1.1)	0 (0)	12 (3.9)	0.61

Figure: Association of Rhesus blood type and COVID-19 diagnosis and symptoms in pregnancy



976 The utility of third trimester fetal biometry in predicting SGA infants in a zambian population

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OBJECTIVE: Small for gestational age (SGA) is associated with adverse neonatal and childhood outcomes in low- and middle-income countries (LMIC). Higher rates of SGA have been measured among infants with fetal biometry demonstrating fetal growth restriction (FGR). The correlation between third trimester fetal biometry and SGA in LMIC is not well-studied. We sought to determine if third trimester fetal biometry is predictive of SGA in a Zambian cohort.

STUDY DESIGN: The Zambian Preterm Birth Prevention Study (ZAPPS) is an ongoing prospective cohort of pregnant women at a single tertiary hospital in Lusaka. Women who were ≥18 years old with a viable, singleton, intrauterine pregnancy on ultrasound (US) at < 24 weeks gestation were eligible. Fetal growth centile at 32 weeks was estimated by fetal biometry using two-parameter INTERGROWTH-21st norms. FGR was defined as an estimated fetal weight (EFW) < 10%ile. The primary outcome was SGA, defined as birthweight (BW) < 10%ile. Data were analyzed by chi-square and logistic regression as appropriate.

RESULTS: 1450 women were enrolled in ZAPPS between 2015-2017. A 32-week US (mean 32.1 ± 0.8 weeks) and infant birthweight were available for 708 mother-infant pairs (49%). 39/708 women (6%) had FGR at the 32-week US. 125/708 (18%) women delivered SGA infants. Of these infants, 20 (19%) had FGR at 32 weeks. Of the 39 women with FGR at 32 weeks, 20 (51%) had SGA infants (OR 5.7, 95% CI 2.9-11.0). A Bayesian logistic regression model was used to calculate the probability of SGA by EFW at 32 weeks (Figure 1). An EFW < 1260g by INTERGROWTH-21 at 32 weeks was associated with >50% risk of SGA. Based on ROC curve analysis (Figure 2), the specificity of using FGR at the 32-week US to predict SGA infants was very strong (97%), but sensitivity was poor (16%).